

We claim:

1. An inner tube comprising a halogenated isobutylene-co-alkylstyrene polymer.
2. The inner tube of Claim 1, wherein the halogenated isobutylene-co-alkylstyrene is brominated isobutylene-co-methylstyrene polymer.
3. The inner tube of Claim 1, wherein the halogenated isobutylene-co-alkylstyrene is brominated isobutylene-co-*paramethylstyrene* polymer.
4. The inner tube of Claim 1, comprising at least 15 parts per hundred rubber halogenated isobutylene-co-alkylstyrene polymer.
5. The inner tube of Claim 1, comprising at least 25 parts per hundred rubber halogenated isobutylene-co-alkylstyrene polymer.
6. The inner tube of Claim 1, comprising at least 40 parts per hundred rubber halogenated isobutylene-co-alkylstyrene polymer.
7. The inner tube of Claim 1, comprising at least 100 parts per hundred rubber halogenated isobutylene-co-alkylstyrene polymer.
8. The inner tube of Claim 1, further comprising a cure package.
9. The inner tube of Claim 8, further comprising a vulcanizing agent, a retarder, a filler, or blends thereof.
10. The inner tube of Claim 1, wherein the halogen is present from 0.1 to 3.0 mol% relative to the total amount of the polymer.
11. The inner tube of Claim 10, wherein the halogen is bromine.

12. The inner tube of Claim 10, wherein the halogen is chlorine.
13. An inner tube comprising a blend comprising a halogenated isobutylene-co-alkylstyrene polymer and a second rubber.
14. The inner tube of Claim 13, where the second rubber is selected from the group consisting of natural rubber, polyisoprene rubber, poly(styrene-co-butadiene) rubber (SBR), polybutadiene rubber (BR), butyl rubber, poly(isoprene-co-butadiene) rubber (IBR), styrene-isoprene-butadiene rubber (SIBR), polysulfide, nitrile rubber, propylene oxide polymers, semi-crystalline copolymer (SCC), halogenated star-branched butyl rubber, brominated butyl rubber, chlorinated butyl rubber, star-branched butyl (polyisobutylene/isoprene copolymer) rubber, star-branched halogenated (brominated or chlorinated) butyl (polyisobutylene/isoprene copolymer) rubber, poly(isobutylene-co-methylstyrene), and halogenated poly(isobutylene-co-methylstyrene).
15. The inner tube of Claim 13, wherein the halogenated isobutylene-co-alkylstyrene polymer is brominated isobutylene-co-methylstyrene polymer.
16. The inner tube of Claim 13, wherein the halogenated isobutylene-co-alkylstyrene polymer is brominated isobutylene-co-*paramethylstyrene* polymer.
17. The inner tube of Claim 13, wherein the second rubber is an isobutylene-based rubber.
18. The inner tube of Claim 17, wherein the isobutylene based rubber comprises at least 80 weight % isobutylene.

19. The inner tube of Claim 13, comprising at least 15 parts per hundred rubber halogenated isobutylene-co-alkylstyrene polymer.
20. The inner tube of Claim 13, comprising at least 25 parts per hundred rubber halogenated isobutylene-co-alkylstyrene polymer.
21. The inner tube of Claim 13, comprising at least 40 parts per hundred rubber halogenated isobutylene-co-alkylstyrene polymer.
22. The inner tube of Claim 13, comprising at least 100 parts per hundred rubber halogenated isobutylene-co-alkylstyrene polymer.
23. The inner tube of Claim 13, wherein the blend further comprises a cure package.
24. The inner tube of Claim 23, wherein the blend further comprises a vulcanizing agent, a retarder, a filler, or blends thereof.
25. The inner tube of Claim 13, wherein the halogen is present from 0.1 to 3.0 mol% relative to the total amount of the polymer.
26. The inner tube of Claim 25, wherein the halogen is bromine.
27. The inner tube of Claim 25, wherein the halogen is chlorine.
28. A tire assembly comprising:
  - a) a tire; and
  - b) an inner tube comprising a blend comprising a halogenated isobutylene-co-alkylstyrene polymer.

29. The tire assembly of Claim 28, wherein the halogenated isobutylene-co-alkylstyrene polymer is brominated isobutylene-co-methylstyrene polymer.
30. The tire assembly of Claim 28, wherein the halogenated isobutylene-co-alkylstyrene polymer is brominated isobutylene-co-*paramethylstyrene* polymer.
31. The tire assembly of Claim 28, wherein the blend further comprises ethylene-propylene-diene rubber (EPDM).
32. The tire assembly of Claim 28, where the blend further comprises a second rubber selected from the group consisting of natural rubber, polyisoprene rubber, poly(styrene-*co*-butadiene) rubber (SBR), polybutadiene rubber (BR), butyl rubber, poly(isoprene-*co*-butadiene) rubber (IBR), styrene-isoprene-butadiene rubber (SIBR), polysulfide, nitrile rubber, propylene oxide polymers, semi-crystalline copolymer (SCC), halogenated star-branched butyl rubber, brominated butyl rubber, chlorinated butyl rubber, star-branched butyl (polyisobutylene/isoprene copolymer) rubber, star-branched halogenated (brominated or chlorinated) butyl (polyisobutylene/isoprene copolymer) rubber, poly(isobutylene-co-methylstyrene), and halogenated poly(isobutylene-co-methylstyrene).
33. The tire assembly of Claim 28, wherein the blend further comprises a second isobutylene-based rubber
34. The tire assembly of Claim 33, wherein the second isobutylene based rubber comprises a copolymer of isobutylene/isoprene.
35. The tire assembly of Claim 28, wherein the halogen is present from 0.1 to 3.0 mol% relative to the total amount of polymer.

36. The tire assembly of Claim 35, wherein the halogen is bromine.
37. The tire assembly of Claim 35, wherein the halogen is chlorine.